

Application No.: 10/700,295
Amendment Date: April 11, 2005
Reply to Office Action: January 11, 2005

SP03-079A

In The Drawings

The attached sheet of drawings includes changes to Figure 5A. This sheet, which includes Figure 5A and 5B replaces original sheet including Figure 5A and 5B. In Figure 5A, previously omitted element 56' has been added.

Attachment: Replacement sheet

Remarks

In view of the above amendments and the following remarks, favorable reconsideration of the outstanding office action is respectfully requested.

Claims 1-28 remain in this application. Claims 1-9 have been amended. Claims 13-28 have been withdrawn from consideration, without prejudice, subject to Applicant's right to file a divisional application.

Restriction Requirement

The Examiner issued a Restriction Requirement identifying the following groups of claims as being drawn to potentially distinct inventions:

- Group I. Claims 1 and 10-12, drawn to a ceramic non-porous electrolyte sheet, classified in class 429, subclass 33.
- Group II. Claims 2-9, drawn to a non-porous textured electrolyte sheet, classified in class 252, subclass 62.2; and
- Group III. Claims 13-28, drawn to a method of making an electrolyte sheet, classified in class 264, subclass 618.

The Examiner asserted that these inventions may be regarded as independent and distinct from one another because:

- (a) "Inventions I and II are related s subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has separate utility such as batteries, including but not limited to lithium, zinc, lead acid, and nickel cadmium, and in magnetic recording mediums. See MPEP § 806.05(d).

(b) Inventions I, III and II and III are related as process of making and product made.

The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f). In the instant case inventions of group I and II can be made by a range or processes including sputtering, chemical vapour deposition, electroless plating. Insufficient evidence exists showing the product of invention I and II can only be made by the process of invention III.”

In a telephone conference with the undersigned attorney/agent of record dated January 4, 2005, a provisional election was made without traverse to prosecute the invention of Group I, claims 1 and 10-12. Applicants hereby confirm that provisional election and withdraws claims 13-28 from consideration.

Accordingly Claims 2-9 have been amended. Claims 3-9 depend from claim 1 as their base claim. The language of claim 2 is similar to that of claim 1 and both claims are directed to a fuel cell device.

Therefore, Applicants believe that proposed inventions of the amended claims 1 and 2 are inextricably intertwined, and prosecution of the proposed groups of claims together would be most effective for the Office because both claims 1 and 2 are directed to a fuel cell device having an electrolyte sheet with a non-porous body having one relatively smooth surface and one more textured surface, wherein the thickest part of the non-porous body is at least 0.5 micrometers greater than the thinnest part of the sheet.

Thus, in order to conduct a comprehensive search regarding any one of claims 1 and 2, because of the common language shared by claims 1 and 2, it would be inherently necessary to review the same pertinent fields and classes of prior art. Moreover, the important questions of patentability and claim interpretation are likely to be based on

substantially similar issues and evaluations for each group of claims, and would require consideration of the same prior art, and combined prosecution is therefore less likely to result in inconsistent or conflicting file histories.

It is also noted that, the inventions of claims 1 and 2 are both directed to the same subject matter- i.e., fuel cell devices and thus have the same use (Fuel Cell systems).

As such, Applicant respectfully requests that the Examiner continue prosecution of claims 1-12 together with one another.

As stated above, Claims 13-28 has been withdrawn from consideration.

Drawings

Figure 5A is objected to for not showing reference number (56') as referred to in paragraph [0048]. Appropriate correction is required.

Figure 5A has been amended, as suggested by the Examiner to include the reference number 56'.

§ 102 Rejections

Claims 1 and 10-12 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,428,920 (Badding).

As stated by the Examiner, the Badding reference (6,428,920) specifies "an electrolyte sheet with one surface coated with a roughened nano-crystalite layer (Abstract), where the layer is less than two microns in thickness (Col4, lns. 64-67). The electrolyte sheet then has variations in thickness of at least 0.5 microns". However these layers (2) are

porous. (See, for example, Fig. 2 and Col. 5, lns 9-11 of this reference). That it, it is the porous layers that have a roughened interfacial nano-crystalline structures.

Applicant's claim 1 calls for an "electrolyte sheet including a substantially non-porous body of a varied thickness, said non-porous body having one side with a relatively smooth surface and another side with a more textured surface with multiple indentations therein, wherein the thickest part of said non-porous body is at least 0.5 micrometers". This is shown, for example, in Fig. 4A of Applicant's specification. That is, applicant's claim 1 (and the claim 2) relates to an electrolyte sheet where the non-porous body has a varied thickness.

Thus, Claims 1 and 10-12 are not anticipated by U.S. Patent 6,428,920 (Badding).

§ 103 Rejections

Claims 1 and 10-12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over US Publication 2003/0165732 A1 (McElroy) in view of US Publication 2001/0044043 (Badding).

The McElroy reference does not disclose a fuel cell device that includes an electrolyte sheet having a non-porous body with one side that is relatively smooth surface and another side with a more textured surface with multiple indentations therein, "wherein one side of said electrolyte sheet is experiencing a predominately compressive force, the other side of said electrolyte sheet experiencing a predominately tensile force, wherein the side with a relatively smooth surface is subjected to the predominately tensile force and more textured surface subjected to predominately compressive force". The Badding reference also does not disclose this feature.

The establishment of *prima facie* case of obviousness required that **all of the elements be found in the prior art**. Accordingly, it follows that if **a single element is not found in cited art**, a valid *prima facie* case can not be established. Moreover, obviousness can only be established by combining or modifying the teachings of prior art to produce the claimed invention where there is a teaching, suggestion or motivation to do so found in the references relied upon. However, hindsight is never an appropriate motivation for combining references and/or requisite knowledge available to one having ordinary skill in the art. To this end, relying upon hindsight knowledge of applicants' disclosure when the prior art does not teach nor suggests such knowledge results in the use of the invention as a template for its own reconstruction. This is wholly improper in the definition for patentability.

Therefore, since the two cited references, in combination, do not disclose all of the features claimed by Applicants, Applicants submit that Claims 1 and 10-12 are not unpatentable over US Publication 2003/0165732 A1 (McElroy) in view of US Publication 2001/0044043 (Badding).

Claim 2

Claim 2 is similar to claim 1, but specifies that the smooth side of non-porous body is a fuel facing side and the more textured side is an air facing side. This feature is not disclosed by any of the cited references. Therefore, Applicant respectfully submits that claim 2 is not obvious, because the cited references, in combination, do not disclose all of the claimed features of claim 2.

Conclusion

In view of the above, Applicants submit that the pending claims are in condition for allowance, and such allowance is earnestly solicited.

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Applicants believe that no extension of time is necessary to make this Response timely. Should Applicants be in error, Applicants respectfully request that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Response timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Svetlana Z. Short at 607-974-0412.

Date: 4/11/05

Respectfully submitted,

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